



YOU & YOUR WELL

WISCONSIN DEPARTMENT OF NATURAL RESOURCES



The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240.

This publication is available in alternative format (large print, Braille, audio tape, etc) upon request. Please call 608-266-0821 for more information.

For more information, request the following brochures: Well Abandonment (PUB-DG-016), Bacteriological Contamination of Drinking Water (PUB-DG 003), Driven-Point (Sand-Point) Wells (PUB-DG-022 92)

PUB-DG-002 2003



Is there a new well in your future? Perhaps you are building a new home, or are simply considering replacing or upgrading an existing water supply. Whatever the case, here is some information that can help you.

Who regulates water wells?

Wisconsin has had well regulations since 1936, and today is recognized as a national leader in well protection. NR 812, (formerly NR 112), Wis. Adm. Code, is administered by the Department of Natural Resources (DNR). The Well Code is based on the sound premise that if a well and water system is properly located, constructed, installed and maintained the well should provide safe water continuously without the need for treatment. Most county zoning and public health offices have a copy of the Well Code. For information about the code, contact a DNR regional water supply staff person or a licensed well driller or pump installer. Consult with licensed individuals or neighbors for background information on water quality.

When is an approval required prior to construction?

Some DNR approved county ordinances require that a “well permit” be obtained prior to construction. Check with your local health department or zoning office.

State statutes require that any owner who constructs and/or operates a well or combination of wells on one property capable of producing at least 70 gallons per minute all together, must obtain an approval from the DNR prior to construction.

Approvals are also required for constructing school water systems, wastewater treatment plant water systems and community water systems governed under chapter NR 811 and for some types of water treatment.

Who can construct wells? Who can install pumps?

Well Driller—Only those persons holding a current well drilling license from the Department of Natural Resources may construct or reconstruct (deepen or install a liner or screen) potable wells.

Pump Installer—Only those persons holding a current pump installer license from the Department of Natural Resources may install and replace pumps, pitless adapters and accessory piping and pressure tanks on both drilled and driven point potable wells.

Exceptions—A well drilling license is not required for constructing driven point wells.

A license is not required for a person constructing a well or installing a pump on property owned *and* occupied by him or her. State law requires, however, that no matter who does the work, it must comply with the State Private Well Code (ch. NR 812).

A license is not required for an individual constructing a nonpotable well or installing a pump in a nonpotable well, however the installation must comply with the well code.

What are the responsibilities of a well constructor to the owner?

The well must be constructed or reconstructed in compliance with ch. NR 812, and upon completion of a well construction or reconstruction, a well driller or point driver is required to:

1. Test pump and flush the well.
2. Disinfect the well.
3. Collect a water sample for a bacteriological test; submit the sample to a laboratory certified for bacteriological testing; and provide a report of the results to the owner within 10 days of receiving the water test results. (The DNR recommends that the water also be tested for nitrates.)
4. Provide the owner or his agent with a copy of a Well Construction Report, that describes how the well was constructed, within 30 days of completion of the well. The report assigns a unique number to the well.

The water sample test results and well construction report must also be sent to the Department.

What are the responsibilities of a pump installer to the owner?

A pump installer must install the pump, the pitless adapter, pressure tank and sample faucet in compliance with the Well Code, disinfect the pump and distribution system after installation, flush it, take a water sample for bacteriological analysis (as described in #3 above) and report the results to the owner.

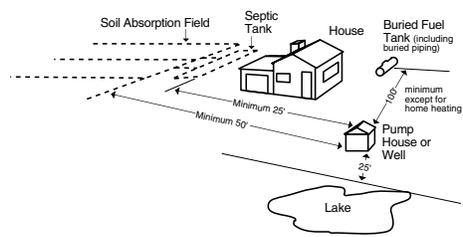


Figure A Common separation distances on residential lots

The pump installer may delegate the sample collection to the owner or another agent, by leaving the sample bottle, instructions and form.

Some private well location requirements (from NR 812)

Always ensure that your well is located upslope and as far as possible from potential sources of contamination, but at least:

- ◆ 8 feet from an approved building sewer pipe or 25 feet from building sewers made of other non-approved materials.
- ◆ 8 feet from a swimming pool.
- ◆ 8 feet from any “clear water drain” (for example, a rainwater downspout outlet or foundation drain discharging to the ground).
- ◆ 100 feet from any buried petroleum tank, except that only 25 feet of separation is required for a buried fuel oil tank if the tank is used only for private residential heating.
- ◆ 25 feet from a septic or holding tank, or laundry or wastewater sump.
- ◆ 25 feet from the high water mark of a lake, pond or stream.
- ◆ 50 feet from a privy, soil absorption system (“drainfield”) or mound system; or a municipal sanitary sewer or private collector storm sewer, either larger than 6" in diameter or serving more than 4 living units.
- ◆ 50 feet from the nearest existing or future grave site in a cemetery.
- ◆ 250 feet from a sludge disposal area, a salvage yard or a salt storage area.
- ◆ 250 feet from an absorption, storage, retention or treatment pond; ridge and furrow system; or spray irrigation waste disposal site.
- ◆ 1,200 feet from any existing, proposed or abandoned landfill site.

NOTE: This list is not complete. Consult NR 812 or the DNR for specific requirements. Figures A and B show well location requirements.

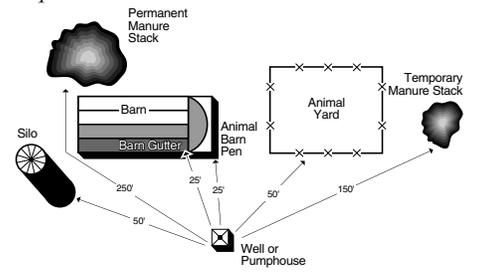


Figure B Common separation distances on farms

Some general DOs and DON'Ts

- DO** Make certain the well constructor extends the well casing pipe at least 12 inches above the finished ground surface and two feet above the floodplain. (Take future landscaping into account.)
- DO** Properly install a vermin-proof well cap and conduit to prevent entrance of insects into the well.
- DO** Make certain any underground connection to the well is made with an approved pitless adapter or unit. Properly installed, this will provide a water tight connection to the well and allow pump repair or well cleansing without further excavation around the well, unless it is a driven point well.
- DO** Properly fill and seal any unused wells from the bottom to the top (a DNR brochure on Well Abandonment is available).
- DO** Collect a water sample for bacteriological analysis at least once each year and anytime you notice a change in taste, odor, color or appearance. Sample for nitrate if the water is to be used for an infant or a pregnant woman.
- DO** Construct your driven point well to a depth of at least 25 feet (not including the screen), or, 10 feet below the static water level, whichever is greater. Shallow wells are not recommended in areas of small lots and high density homes.
- DO** Install an accessible downward-facing, non-threaded sampling faucet between the pump and the pressure tank or on the "T" for the tank. It must be at least 12 inches above the floor to allow for sampling water directly from the well.
- DO** Use only approved well casing pipe. (see NR 812.17).

- DON'T** Install a well in the basement or crawl space of your home or the well won't be accessible for repair. If the basement is of the walk-out type, installation is permissible (but not recommended), if certain requirements are met. Offset pumps may be installed in dry basements.
- DON'T** Construct a well, pump, or pressure tank pit. Pits may only be constructed after obtaining State approval and must be built to stringent State specifications. The DNR *does not* recommend pits because of the potential for flooding and subsequent contamination of the water supply. Pitless adapters and units have made pits unnecessary and obsolete.
- DON'T** Bury an unprotected suction line from a well to a pump installed in a basement. If it develops a hole or crack, it could allow surface water to enter. Instead use a pitless adapter or unit with a concentric pressurized piping arrangement (inner-suction, outer-pressure) to connect the offset pump to well. Also, *do not* use a non-pressure conduit to enclose the suction piping.
- DON'T** Use any well for disposal or drainage of solid wastes, sewage, surface water or wastewater. This includes water from heat exchangers (heat pumps). This can contaminate our precious aquifers.
- DON'T** Develop a spring as a drinking water source without obtaining advance approval from DNR. The DNR *does not* recommend the use of a spring as a source of water from drinking because they usually are not properly protected from contamination.

Types of acceptable pump installations

Offset Pumps (usually installed apart from the well in house basement or separate building) with a seal-cross fitting or a flange adapter and pressurized, concentric discharge. Connections are made below frost depth, eliminating the potential for freezing.

1. Shallow-well pump (Figure C)
2. Packer jet assembly pump (Figure D)

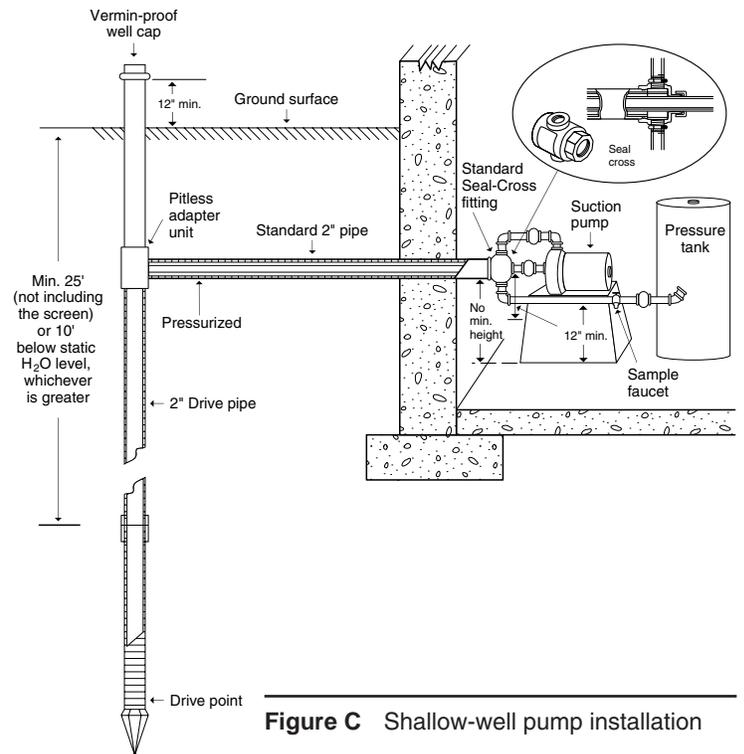


Figure C Shallow-well pump installation

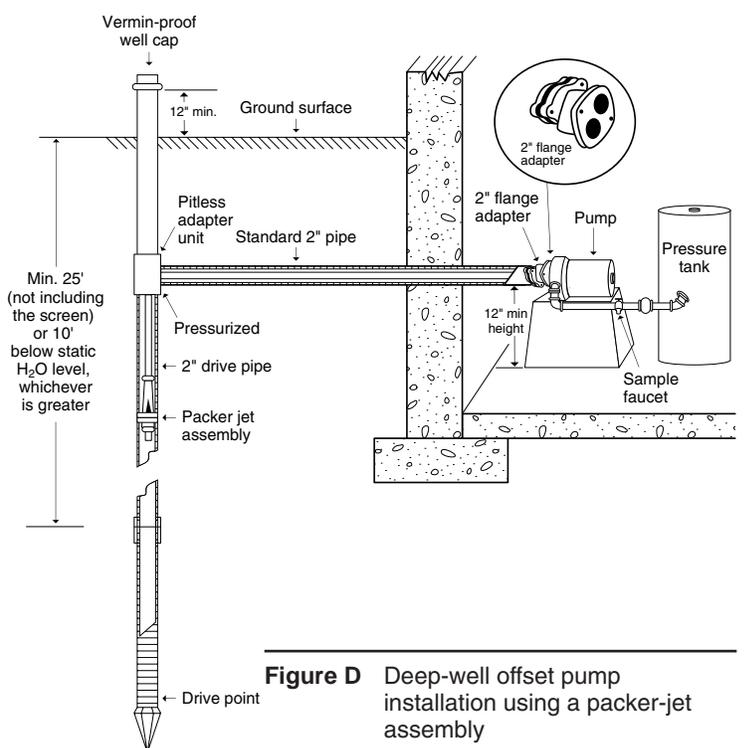


Figure D Deep-well offset pump installation using a packer-jet assembly

Submersible Pumps installed inside well and below water level with:

1. An above-ground discharge pipe enclosed in a heated shelter (Figure E); or
2. Approved above-ground discharge unit, directed to an inside pressure tank (Figure F); or
3. A below-ground discharge with approved pitless adapter or pitless unit (Figure G); or
4. A buried pitless receiver tank (Figure H).

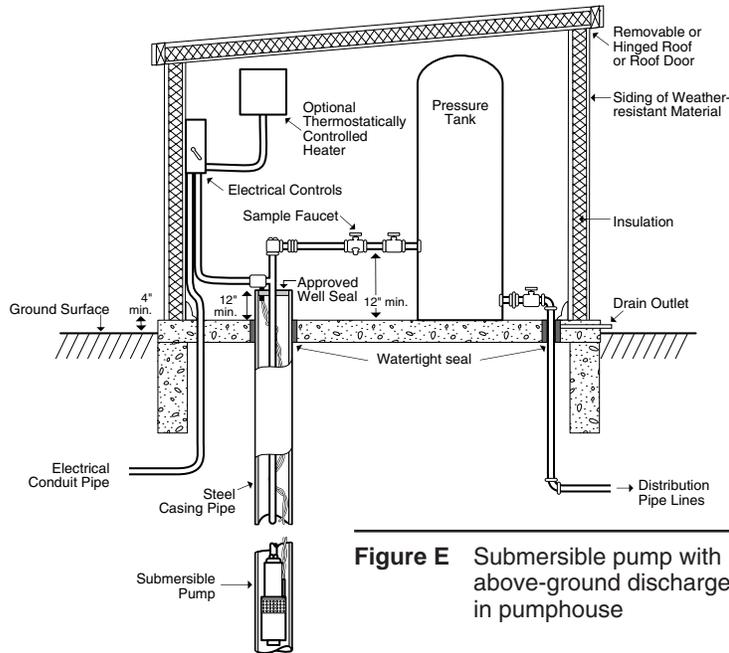


Figure E Submersible pump with above-ground discharge in pumphouse

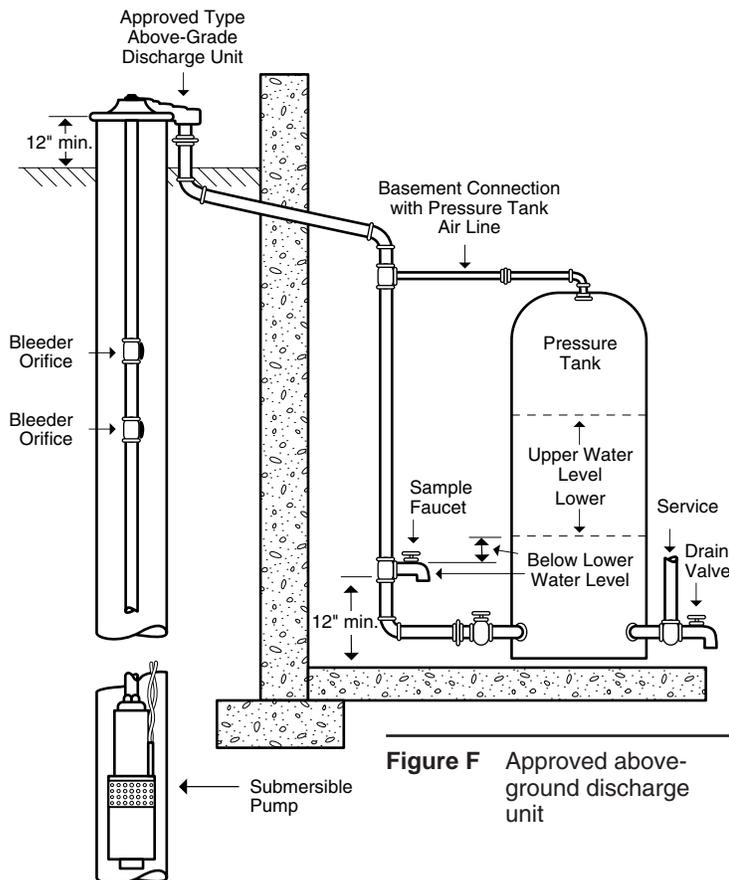


Figure F Approved above-ground discharge unit

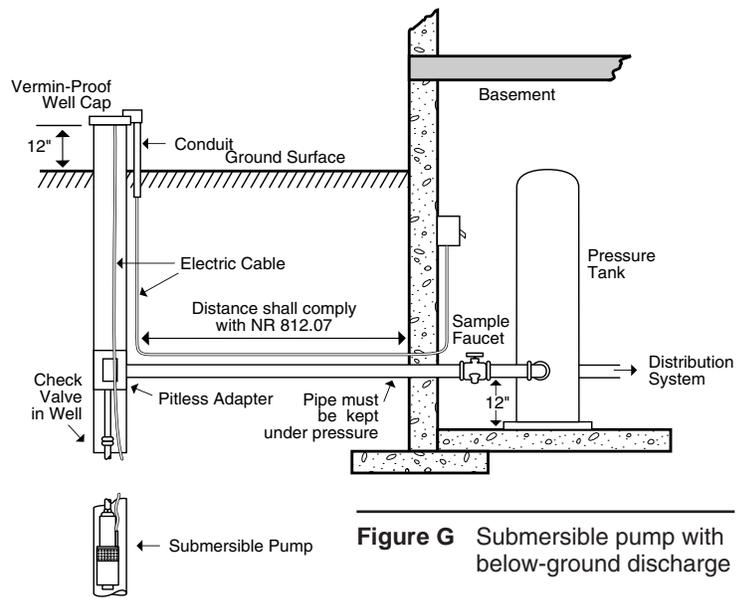


Figure G Submersible pump with below-ground discharge

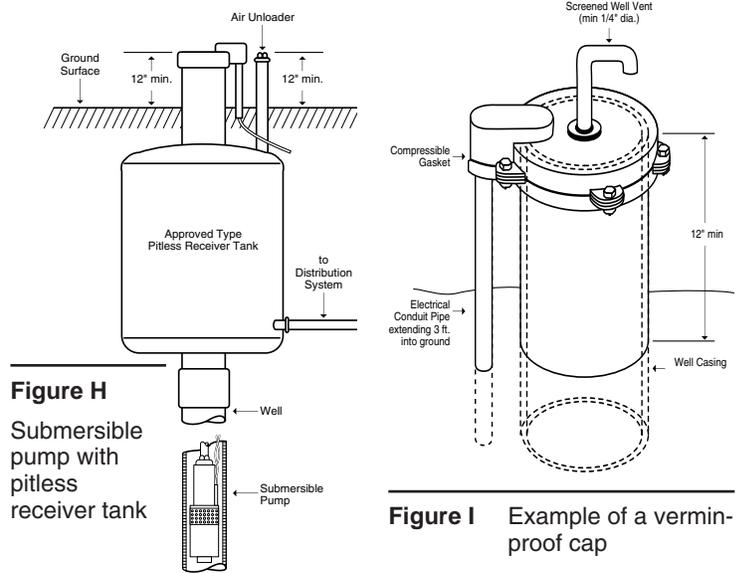


Figure H Submersible pump with pitless receiver tank

Figure I Example of a vermin-proof cap

Well Code requirements have been simplified for this pamphlet.

For specific details on the Wisconsin Well Code (NR 812), contact the Drinking Water and Groundwater staff at one of the following DNR offices:

Northern Region
810 W. Maple Street
Spooner, WI 54801
(715) 635-2101

107 Suttiff
Rhineland, WI 54501
(715) 365-8900

West Central Region
1300 W. Clairmont
P.O. Box 4001
Eau Claire, WI 54702-4001
(715) 839-3700

Northeast Region
1125 N. Military Avenue
P.O. Box 10448
Green Bay, WI 54307-0448
(920) 492-5800

Southeast Region
2300 N. Dr. Martin Luther King Jr. Dr.
P.O. Box 12436
Milwaukee, WI 53212
(414) 263-8500

Central Office
101 S. Webster Street
PO Box 7921
Madison, WI 53707-7921
(608) 266-0821

South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711
(608) 275-3266

